

Study Guide - Cell Unit Test

Biology

1. Which cell structure contains the cell's genetic material and controls the cell's activities? ***Nucleus***
2. What do *ribosomes* do? ***Manufacture proteins***
3. Which cell structure is the main producer of energy for the cell? ***Mitochondria***
4. List two structures you would expect to find in plant cells but not animal cells and identify the function of each of these structures. ***Cell wall (provides structure for the cell), chloroplasts (convert sunlight into sugar)***
5. The cell membrane is made up of a _____ bilayer.
Phospholipid
6. Which type of cell transport mechanism is characterized by the movement of molecules from an area of high concentration to an area of low concentration? ***Diffusion***
7. Which type of cell transport mechanism is characterized by a cell's membrane wrapping around and engulfs a large particle? ***Endocytosis***
8. What is the definition of *osmosis*? Supplement your answer with a diagram that illustrates what osmosis is and how it happens. ***Osmosis is the diffusion of water from an area of high water concentration to an area of low water concentration***

9. What is the name of the cell transport mechanism used to get substances through the cell membrane using specialized proteins but does NOT require energy input from the cell?
Facilitated diffusion
10. Explain the following terms: *isotonic, hypotonic, hypertonic*. What would happen to a cell if you put it in a solution of each type?
1. ***Isotonic: a solution that has the same concentration as the cell – osmosis will not occur***
 2. ***Hypotonic: a solution that has a higher concentration of water than the cell – in other words, it has a lower concentration of other substances – water will move from the hypotonic solution into the cell***
 3. ***Hypertonic: a solution that has a lower concentration of water than the cell – in other words, it has a higher concentration of other substances – water will move from the cell into the hypertonic solution***
11. What is the name of the structure found in plant cells that contains *chlorophyll*? ***Choloroplasts (a type of plastid)***
12. The *endoplasmic reticulum* is an extension of which membrane? ***Nuclear envelope***
13. What is the name of the cell structure that serves as the primary “packaging” area for proteins made by the cell?
Golgi apparatus
14. Which two cellular structures were clearly visible in the cheek cell slides we made in class? ***Cell membrane and nucleus***

15. What is the most likely cell transport mechanism a cell would use to get rid of an extremely large waste particle?
Exocytosis

16. What is the function of *chromosomes*? ***Store genetic information***

17. What is the main difference between *active transport pumping* and *facilitated diffusion*? ***Active transport pumping requires energy! (Both processes involve proteins embedded in the cell membrane that help transport things in and out of the cell.)***